

Book Reviews

BUILDING A NEW BIOCULTURAL SYNTHESIS: POLITICAL-ECONOMIC PERSPECTIVES ON HUMAN BIOLOGY. Edited by Alan H. Goodman and Thomas L. Leatherman. 1999. Ann Arbor, MI: University of Michigan Press. 486 pp. ISBN 0-472-06606-4. \$19.95 (paper).

Since the 1960s, research in human biology has expanded in a number of different directions, several of which developed in response to criticisms raised with the human adaptability studies conducted as part of the International Biological Programme (IBP). One of these directions has been the development of biocultural approaches to human biology, which incorporate a broader consideration of how social, political, and economic factors influence human health and well-being. Alan Goodman and Thomas Leatherman have been leaders in advancing this perspective, and *Building a New Biocultural Synthesis* represents the first major volume to draw together alternative views on biocultural approaches to the study of human biology.

The volume developed from a Wenner-Gren Symposium on "Political-Economic Perspectives in Human Biology" held in Mexico in 1992. It contains 19 chapters, and is divided into four parts: (1) Historical Overview and Theoretical Developments, (2) Case Studies and Examples: Past Populations, (3) Case Studies and Examples: Contemporary Populations, and (4) Steps toward a Critical Biological Anthropology. The opening chapter by Goodman and Leatherman very effectively traces the historical development of biocultural approaches in anthropology and introduces the diverse chapters that follow. The editors note that the conference on which this volume is based generated both enthusiasm for a more integrated anthropology, as well as a variety of different views regarding what the new biocultural anthropology should look like. This diversity is clearly reflected in the individual chapters,

which present different approaches for linking the study of human biology and health with social and political processes.

In the second chapter, Brooke Thomas offers one vision for linking the study of human adaptability with political-economic perspectives. Building on his recent work on the "biology of poverty," Thomas argues for a dialectical approach that considers both adaptive options and the adaptive "constraints" imposed by political-economic forces. This broadened scope for human adaptability is one that allows for the examination of how macro-level political forces promote variation in health status by limiting biological and behavioral responses to social and ecological stressors.

William Rosenberry's following chapter provides an overview of political-economic approaches in anthropology. This chapter complements some of the issues raised by Thomas; however, it offers little explicit linkage to the study of human biology and health. The first section closes with a chapter by Merrill Singer that discusses the development of Critical Medical Anthropology (CMA) and its implications for integrating political-economic perspectives into human biology. Unlike Thomas, who sees political-economic perspectives as being complementary to the perspective of biological adaptation, Singer sees the political-economic focus of CMA as functioning in opposition to the biomedical and adaptive paradigms. He presents a diffuse critique of the "microscopic lens adopted by much research in biological anthropology" (p. 119) without noting specific examples or making suggestions on how to better design such research. Consequently, the CMA example, as presented, does not appear to be an effective model for the development of integrative biocultural anthropology.

The second section includes five chapters that consider the political economy of health in prehistoric and historic populations. The contributions by Dean Saitta, Alan Goodman, and Debra Martin all demonstrate the importance of investigating the determi-

nants of variation in health status among prehistoric populations. Saitta and Goodman focus on the influence of class differences in health, cautioning against overly simplistic unilineal models of health transition in response to changes in subsistence. Martin, on the other hand, explores how political-economic processes influence gender relations and levels of violence among prehistoric populations of the American Southwest.

Chapters by Alan Swedlund and Helen Ball, and Lourdes Márquez Morfín consider aspects of health in the historic past. Swedlund and Ball explore the determinants of infant mortality in Massachusetts between 1830 and 1920 in order to re-evaluate the turn of the century models used to explain the high mortality rates. They effectively demonstrate how the social context of the time led researchers to overemphasize the influence of women's work on infant mortality. Márquez Morfín examines social and economic differences in the impact of the 1813 typhus epidemic in Mexico City. She shows marked differences in mortality rates in different parts of the city. These differences are the product of higher migration rates and poorer sanitation in the lower income sectors of the city.

The five chapters of the third section consider the biology and health of contemporary populations of the Americas. Tom Leatherman's chapter provides a historical overview of the human biology research conducted in the Nuñoa district of highland Peru from the 1960s to the 1980s. While the initial work conducted as part of the IBP was explicitly focused on understanding adaptation to ecological stressors, the subsequent work demonstrated the important roles of social and political forces in shaping the biology and health of these Andean farmers. The following chapter by Ricardo Santos and Carlos Coimbra on the Tupí-Mondé Indians of Brazil presents a similar historical perspective, noting some of the early IBP studies among Amazonian populations by James Neel and colleagues. While the earlier studies of Amazonian populations focused on "traditional," "undisturbed" populations, Santos and Coimbra's work spe-

cifically focuses on the health consequences of historical political and economic changes in the Brazilian Amazon.

Billie DeWalt's chapter draws on research exploring the links between agricultural production, food consumption, and nutritional status conducted among Honduran farmers. He demonstrates that development efforts to promote commercial agriculture in Honduras have had a negative impact on small landholders. As with Leatherman's example from the Andes, here we have another case of national political processes contributing to declining health and nutritional status of peasant farmers.

Magalí Daltabuit and Tom Leatherman consider the impact of tourism on Mayan populations of the Yucatán. As with the other chapters in this section, we again find that the economic changes have not resulted in improved health or nutritional status among the rural poor. Rather, the expansion of wage labor and the commercialization of diet create novel stressors to which these populations must adjust. Deborah Crooks' chapter brings this message home in showing the impact of poverty on dietary patterns and growth status among children from rural Kentucky. She finds evidence of both chronic undernutrition (low height-for-age) and overnutrition (high body mass indices) in her sample. Although the explanations of these trends await further study, it appears that poor dietary quality may be both limiting statural growth during infancy and contributing to obesity in later childhood.

The five chapters of the book's final section explore the potential for future directions in biocultural research. George Armelagos and Alan Goodman trace the history of the race concept. They argue that the study of the biological consequences of racism should become a central aspect of biocultural anthropology. Michael Blakey considers some of the same themes as Armelagos and Goodman (e.g., the influence of political ideology on the study of human biology); however, he offers a more pointed critique. He calls for a humanistic approach to human biology in which the social context of our research is acknowledged and critically examined.

Lynn Morgan's chapter on "Latin American Social Medicine and the Politics of Theory" parallels Merrill Singer's chapter in using examples from developments in another field (social medicine) to advocate for the inclusion of political-economic theories to biological anthropology. The chapter provides additional background on political perspectives on health; however, the ties to human biology are not clearly explained.

Søren Hvalkof and Arturo Escobar examine the re-emergence of ecological approaches in anthropology. They provide a historical overview and critique of earlier ecological perspectives in anthropology, and outline the development of a political ecology that reflects the articulation of history, biology and culture. The authors believe that this political ecological approach is best developed "by integrating biological and sociocultural perspectives in concrete, project-oriented situations" (p. 443). I would agree with this suggestion. It clearly appears that biocultural integration is most effective in a multidisciplinary setting that links up the expertise of different researchers, each exploring a different dimension of a shared problem.

The final chapter by Gavin Smith and Brooke Thomas revisits the themes initially raised by Goodman and Leatherman in the introduction. Smith and Thomas argue for using adaptive and political-economic perspectives as complementary lines of inquiry in studying variation in human biology and health. Whereas the adaptationist perspective focuses more heavily on the responses to and consequences of proximate stressors, the political-economic approach emphasizes how historical and social patterns have shaped the specific context within which different sectors of a population must adjust. Smith and Thomas outline different approaches for linking adaptive and political-economic perspectives, and underscore the importance of these approaches for addressing emerging problems of the future.

One of the shortcomings of this book is the relatively narrow range of biological/health measures that are considered, particularly

among the studies of living populations. What are largely unexplored in this volume are the biological processes through which social, political, and economic factors promote variation in health status. Rather, the theory and individual examples presented in this volume focus almost exclusively on macro-level integration and analysis. That is, the emphasis is on linking general measures of health with political-economic processes. Thus, while we have many important examples of poverty and political constraints resulting in poor growth, malnutrition and illness, we have relatively little insight into the *mechanisms* through which these social and economic factors are shaping biology and health.

Recent work examining variation in hormonal and immune function indicates that the interplay between biology and culture is far more complex than we had previously realized (see Flinn and England, 1997; Panter-Brick and Worthman, 1998). These kinds of studies offer to provide a richer understanding of the avenues through which social and political stressors may impact health. Some of this work has been highlighted by the editors in other venues (e.g., Leatherman and Goodman, 1994, 1997), and likely fell beyond the scope of this volume. Nonetheless, I suspect that the biocultural vision being advanced by some of the contributors to this book is not sufficiently integrative to embrace these new approaches within human biology. I would hope that we are working toward a biocultural synthesis that examines both the "biological" and "cultural" domains with equal specificity and rigor. This will require perspectives that can integrate the macro-level social and political processes with the individual-level physiological and genetic mechanisms that shape variation in biological function and health status.

These comments notwithstanding, I highly recommend this book. It is an important and well-produced volume that is critical reading for those interested in the future development of biocultural perspectives in anthropology. Additionally, it is very well suited for use in a graduate seminar in that it deals

with a diversity of topics in ways that are sure to stimulate debate and discussion. The editors and contributors have given us much to think about here, and have helped to frame future directions for biocultural research.

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BECOMING HUMAN: EVOLUTION AND HUMAN UNIQUENESS by Ian Tattersall. 1998. New York: Harcourt Brace & Company. 258 pp. ISBN 0-15-100340-8. \$27.00 (cloth).

This engaging and well-written book is not intended for professional anthropologists but is aimed squarely at the educated lay public. As a result, I feel it would be inappropriate for this review to simply be a litany of the disagreements that I have with the author concerning his interpretations of the hominid fossil record. Rather, I would like to focus on his theme of “human uniqueness” that he presents at the outset (p. 4 in the Prologue) and continues to develop throughout the volume. Tattersall’s bottom line is that we are qualitatively different not only from our nearest living relatives (the Great Apes) but from the most recent fossil hominids (the Neandertals) as well.

The book is logically organized and divided into six chapters that are bracketed by a Prologue and Postscript. At the end an extensive (12 pages) index and suggestions for “Further Reading” are included. In keeping with the target audience, neither in-text citations nor footnotes are used. Interestingly, in a book such as this I would have expected illustrations to be liberally sprinkled throughout; however, there are only two figures included. The reader is thus left to conjure images in their mind’s eye and Tattersall’s command of the English language is clearly up to the task. His writing is often charming, as when he describes a Capuchin monkey “belaboring a snake with a stick” (p. 50). At other times the author is naughtily amusing. The brain’s limbic sys-

tem is depicted as the seat of control for “emotional responses related to survival and reproduction (often known as the four F’s: feeding, fighting, fleeing and sex)” (p. 71).

The Prologue and Chapter 1 are introductory, setting the stage for the author’s subsequent arguments for human uniqueness. Chapter 2 compares our capabilities to those of apes, while the next presents Tattersall’s perspectives on evolutionary theory. Chapters 4 and 5 review the hominid fossil record: the former discusses the australopithecines through early *Homo* while the latter focuses primarily upon the Neandertals. Chapter 6, “Being Human,” is where the theme of our species’ distinctiveness reaches full flower. Finally, the Postscript answers one of the public’s (and our students’) most often asked questions: where does our species go from here? Tattersall’s response is that due to increasing panmixia, speciation is unlikely to be in our future, barring some global catastrophe that fragments the survivors into localized and isolated populations.

To establish his thesis that we are a unique species, Tattersall necessarily focuses much of his book on demonstrating that modern humans are qualitatively different from apes and fossil hominids. Group hunting, self-awareness, and the protolinguistic capacities of chimpanzees are often invoked as the most remarkable human-like qualities of our closest living relatives. However, Tattersall does his best to demolish these commonalities in Chapter 2, concluding that “chimpanzee and human hunting patterns are completely different” (p. 38) and

not only do chimps "not have language," but they are unlikely to "possess any cognitive abilities that could be called prelinguistic" (p. 66). Based on the famed mirror studies, the author grudgingly grants recognition of self to these apes, but notes that chimps "exploit their images far less comprehensively than humans do" and that they show "no hint of a desire to 'improve' their reflection" (p. 48).

Turning his attention to fossil hominids in Chapters 4 and 5, the author has little trouble dismissing the human-like behaviors of australopithecines and early members of genus *Homo*. Although he acknowledges that the innovation of stone tool making signaled "a major hominid life style change" that had significant ramifications for cognitive evolution, Tattersall remains reticent in recognizing "functionally 'human' " qualities in these early predecessors (p. 134). However, it is to the Neandertals that the author devotes most of his energy, precisely because these hominids provide the greatest challenge to Tattersall's contention that we, as modern humans, are unprecedented in the evolution of species on this planet. Neandertal burial, often taken as de facto evidence of a dawning religious awareness, is instead suggested to "have been one way of avoiding a particularly unpleasant form of clutter" (p. 161). Similarly, Tattersall does not interpret Mousterian artifacts found within Neandertal burials as ritualistic offerings but rather as "the kinds of things that might well have found their way into the grave by accident" (p. 162).

Nevertheless, it is upon the bastion of language that Tattersall establishes his beachhead against encroaching Neandertal humanity for if they could speak "they *were* us in a profound sense" (p. 166, his italics). Relying primarily upon Laitman and colleagues' vocal tract reconstruction of a high larynx roofed by a flat cranial base, the author answers "almost certainly no" (p. 172) to the question: Did Neandertals have language? Therefore, because Tattersall views language as the cornerstone of symbolic thought, he concludes that Neandertals were incapable of enjoying a life of the mind and in this crucial sense were much more similar to chimpanzees than to us.

I would expect that Tattersall's standing in our field, knowledge of the data, and mastery of the written language would con-

vince most, if not all, of his intended audience that we truly are a unique species. But as a paleoanthropologist, I must admit that my unease increased steadily as I read the book. This was not due to the fact that I disagreed with the author on many of his interpretations of the hominid fossil record—I knew I would before I even agreed to the review. Rather, it was an article written by Matt Cartmill (1990) that continually prodded me as Tattersall developed his theme. Cartmill argued forcefully that trying to establish the singularity of humanity is atheoretical because it removes the requisite comparative context from any explanations of our species' current state or evolution. For example, if human language is indeed fundamentally different from ape (and Neandertal) communication, then by definition it is scientifically inexplicable because as Cartmill states "a genuinely singular occurrence cannot be explained with reference to the laws of nature" (Cartmill, 1990, p. 177).

Ironically, Tattersall's continued characterization of paleoanthropology being mired in an out-dated, nonevolutionary mindset (p. 79) can be equally applied to his insistence on human uniqueness since this "has been a tacit objective of most paleoanthropological model-building since the late 1940s" (Cartmill, 1990, p. 178). Focusing on human uniqueness may also have consequences that are antithetical to Tattersall's sincere desire to show that we humans are integrally bound to the "global ecosystem" (p. 223). By emphasizing our presumed separateness from the rest of the living world, the author may inadvertently provide to some readers a rationalization for their disregard of our planet's non-human life. *Becoming Human* is a compelling book, but I would hope that it only whets the anthropological appetite of potential readers rather than being the last word they receive on human evolution.

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THE PRIMATE ANTHOLOGY: ESSAYS ON PRIMATE BEHAVIOR, ECOLOGY AND CONSERVATION FROM *NATURAL HISTORY*. Edited by Russell L. Ciochon and Richard A. Nisbett. 1998. Upper Saddle River, NJ: Prentice Hall. 246 pp. ISBN 0-13-613845-4. \$28.40 (cloth).

This book reprises 33 articles on primate behavior and ecology published over the last 20 years in *Natural History* magazine. The book is designed to serve as a supplementary text in introductory courses that involve the study of primates. The editors point to paleoanthropology as one area in which the book would be useful, but indicate that they "designed this reader with undergraduates from a broad range of disciplines and backgrounds in mind."

The articles are divided into four parts: I. Social Behavior, Cognition, and Intelligence; II. Community Ecology; III. Diet and Reproduction; and IV. Human-Nonhuman Primate Interaction and Conservation. Some articles clearly cross these divisions; for example, Byrne's and Byrne's article on leopard killing by chimpanzees is placed under Community Ecology but could fit equally well under Social Behavior, Cognition and Intelligence. Most of the articles deal with the field study of one particular species of primate: six concentrating on apes, thirteen on Old World monkeys, eight on New World monkeys, and three on prosimians. In addition, there are three articles that are comparative in nature: Hrdy's article on sex ratios, Martin's article on reproduction, and Wolfheim's article on factors determining endangerment.

The articles naturally vary greatly in style as well as substance, particularly since they were not prepared specifically for this volume. Many are written by the most prominent primate biologists and anthropologists working with nonhuman primates. They often describe the research that makes up the basis of what is reported on primate behavioral ecology in the student's anthropology textbook.

Having taught both introductory biological anthropology courses, as well as primate behavior courses, I have some sense of the student body at which the book is aimed. I

therefore attempted to read it both through the eyes of the student and the instructor. From the student's view, part of the book's appeal is that it gives the animals a lively identity that infuses their behavioral ecology with immediacy not always found in textbooks. Students are likely to better remember the role of cyclical ecological change in vervet predation when they can picture the death of one particular vervet (Newton) as described by Lynne Isbell in "The Vervet's Year of Doom." They may better appreciate the role of elderly female baboons in social decision-making as they read in Jeanne Altmann's "Leading Ladies" about the progression of Amboseli baboons following the old female named Handle. Many of the articles (most notably those by Smuts, Cheney and Seyfarth; Boesch and Boesch-Achermann; Harding and Strum; as well as Isbell and Altmann) very successfully weave stories of the lives of individual primates into discussions of behavioral ecology. From an instructor's viewpoint, this rich primate drama is a mixed blessing. While it does engage students, it also sometimes discourages, rather than encourages, critical thinking. Specifically, by presenting relatively poorly tested, but exciting hypotheses in a mix with facts and well-established theory, the students may take home more from the articles than the instructor (or even the authors) planned. Such readings will certainly require critical analysis in order for the students to achieve the maximum benefit. An example of this is Byrne's and Byrne's conclusion that the chimpanzees of Mahale are practicing predator control based upon apparently one instance of interaction between the chimps and leopards that resulted in the death of a leopard cub. The article assumes for the basis of argument that this isolated event had a specific biological function, however it seems equally probable that it did not.

From the standpoint of both student and instructor, one of the clear strengths of the book is that it provides a number of excellent descriptions of what it is actually like to try to collect data on primates in the field and apply those data to hypothesis testing. The excitement/rewards as well as the frustrations/limitations of such endeavors are well

illustrated by Boinski's article on squirrel monkeys in Costa Rica ("Monkeys with Inflated Sex Appeal"), Wright's piece on observation of owl monkeys ("Night Watch on the Amazon") and Southwick's description of over 40 years worth of field censuses of rhesus monkeys in India ("The Rhesus Monkeys Fall From Grace").

Another aspect of the book that I considered from the standpoint of both student and instructor is the worth of purchasing a compendium of articles from a magazine that is probably easily accessed with no charge at most institutions. While the book is not terribly expensive (\$28.40), it still costs more than reading the articles in the library. In addition, if the students read the library copy, they will have access to the color photography that is present in most of the articles. So, what does the book provide that is superior to assigning library readings? There are three issues I think should be considered. The first is convenience. It seems likely that the number of students

who actually read the assigned articles will increase if the book is available. The second issue is the extent to which the organization of the book and the introductory material provided for each of the four parts enhances the articles. In general, I did not find that the material presented in the introductions provided information or insights in addition to that likely to be gained from simply reading the articles and having a suitable textbook. The third issue is the fact that the purchase of this book will aid conservation efforts. Fifty percent of the royalties earned will be donated to the Sapo Peoples' High Bush Biosphere Reserve Fund administered by the Society for the Renewal of Nature Conservation in Liberia. For many students, and for anyone interested in primates, this will certainly be an incentive to purchase this volume.

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